CHAPTER 4

POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE FORKED DEER RIVER WATERSHED

4.1. BACKGROUND. This chapter is organized by HUC-10 subwatershed, and the description of each subwatershed is divided into four parts:

i. General description of the subwatershed
ii. Description of point source contributions
ii.a. Description of facilities discharging to water bodies listed on the 1998 303(d) list
iii. Description of nonpoint source contributions

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 1.1 beta (developed by Tetra Tech, Inc for EPA Region 4) released in 2000.

WCS integrates with ArcView® v3.2 and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on agricultural census data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

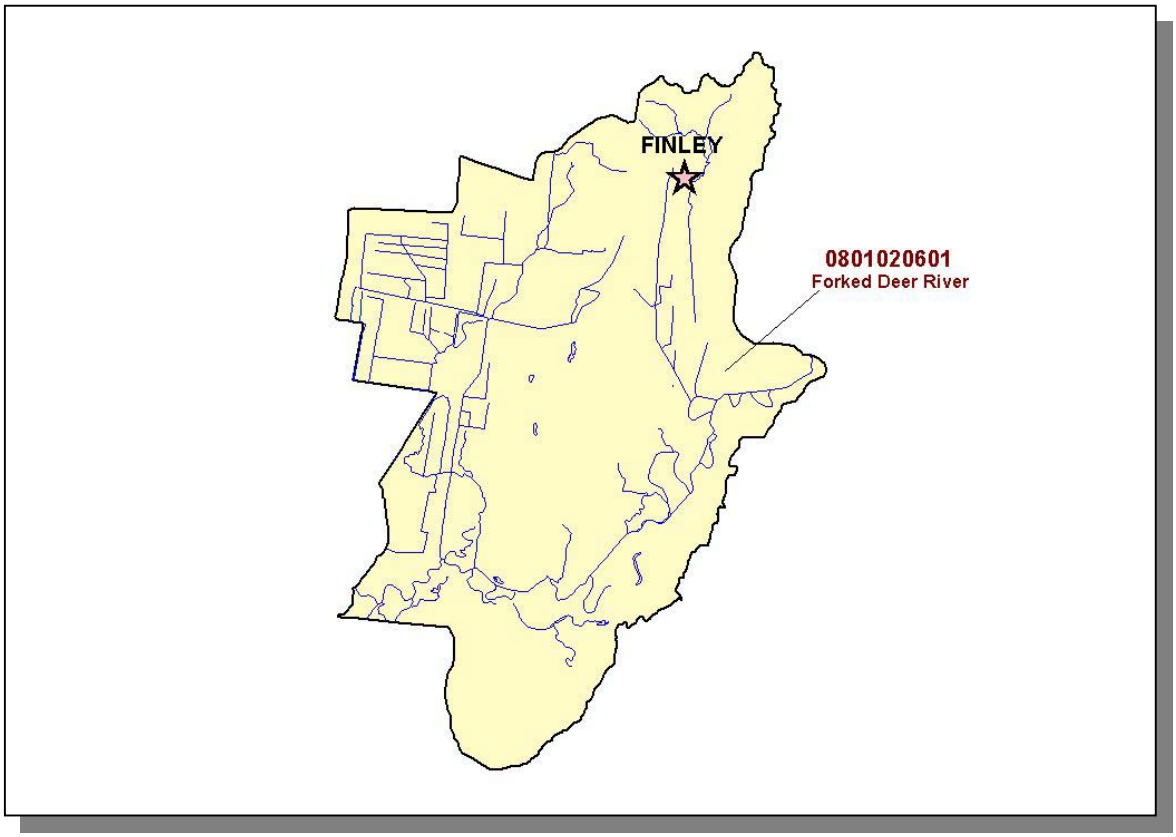

Figure 4-1. The Forked Deer River Watershed has just one USGS-Delineated Subwatershed (10-Digit Subwatersheds). *Location of Finley is shown for reference.*

4.2. CHARACTERIZATION OF HUC-10 SUBWATERSHEDS. The Watershed Characterization System (WCS) software and data sets provided by EPA Region IV were used to characterize the one subwatershed in the Forked Deer River Watershed.

HUC-10	HUC-12
0801020601	080102060101 (Forked Deer River)

Table 4-1. HUC-12 Drainage Areas are Nested Within HUC-10 Drainages. *NRCS worked with USGS to delineate the HUC-10 and HUC-12 drainage boundaries.*

4.2.A. 0801020601.

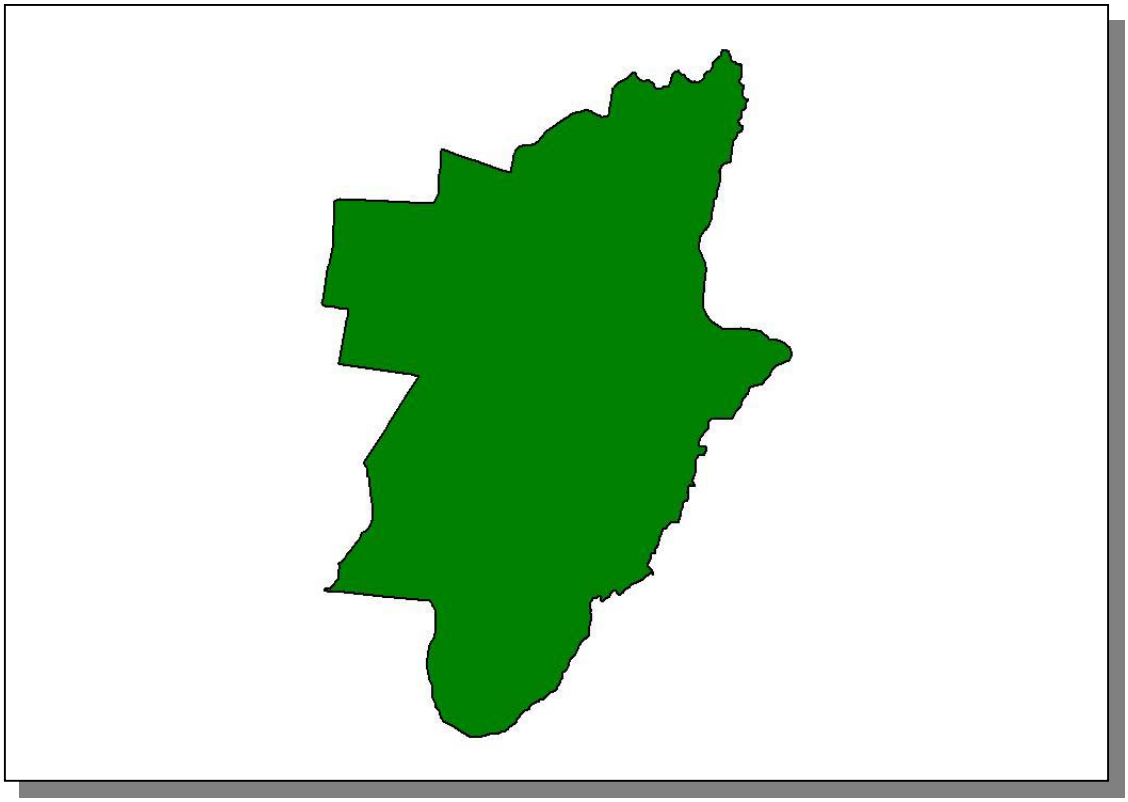

Figure 4-2. Location of Subwatershed 0801020601. *The Forked Deer River Watershed is composed of one HUC-10 subwatershed.*

4.2.A.i. General Description.

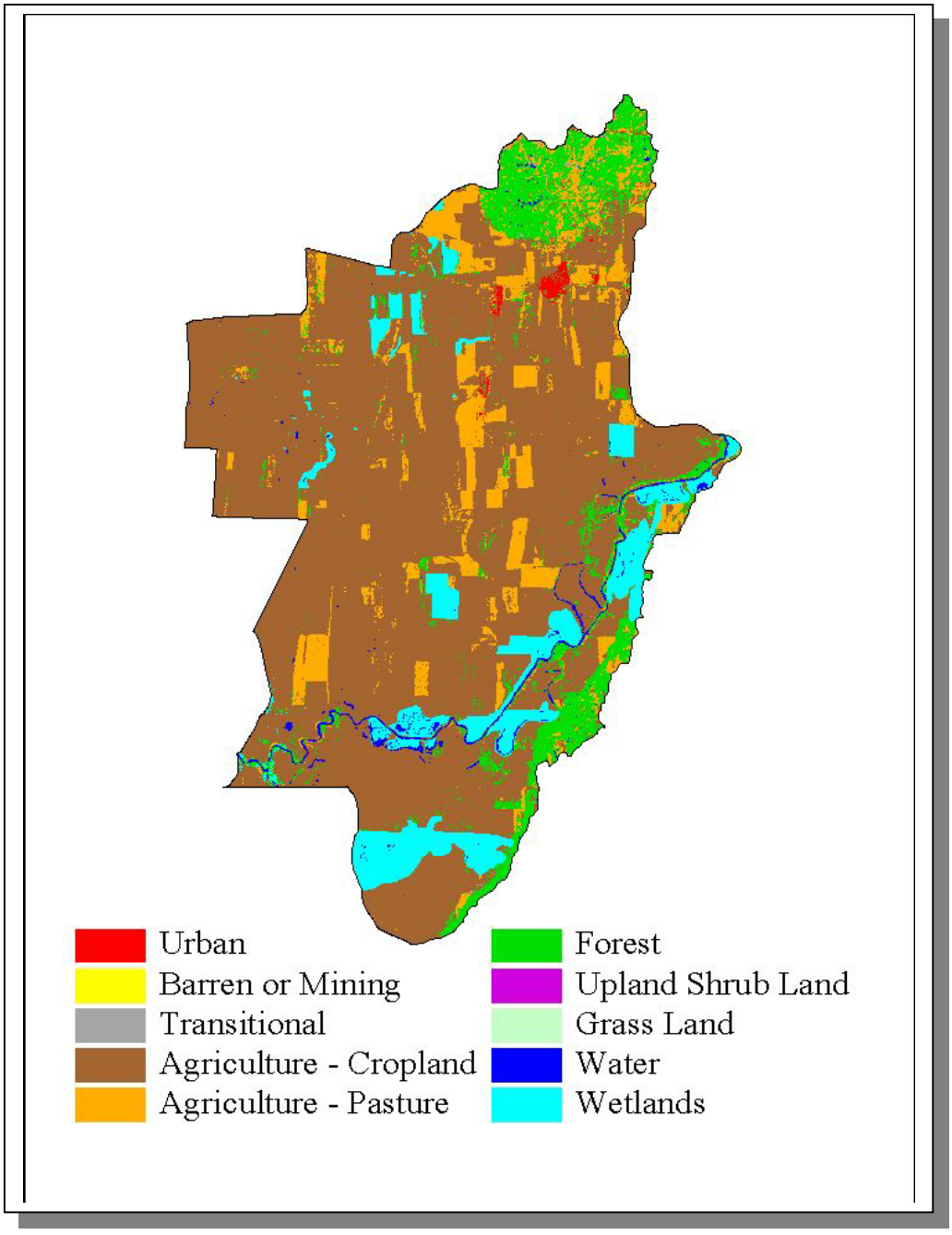

Figure 4-3. Illustration of Land Use Distribution in Subwatershed 0801020601.

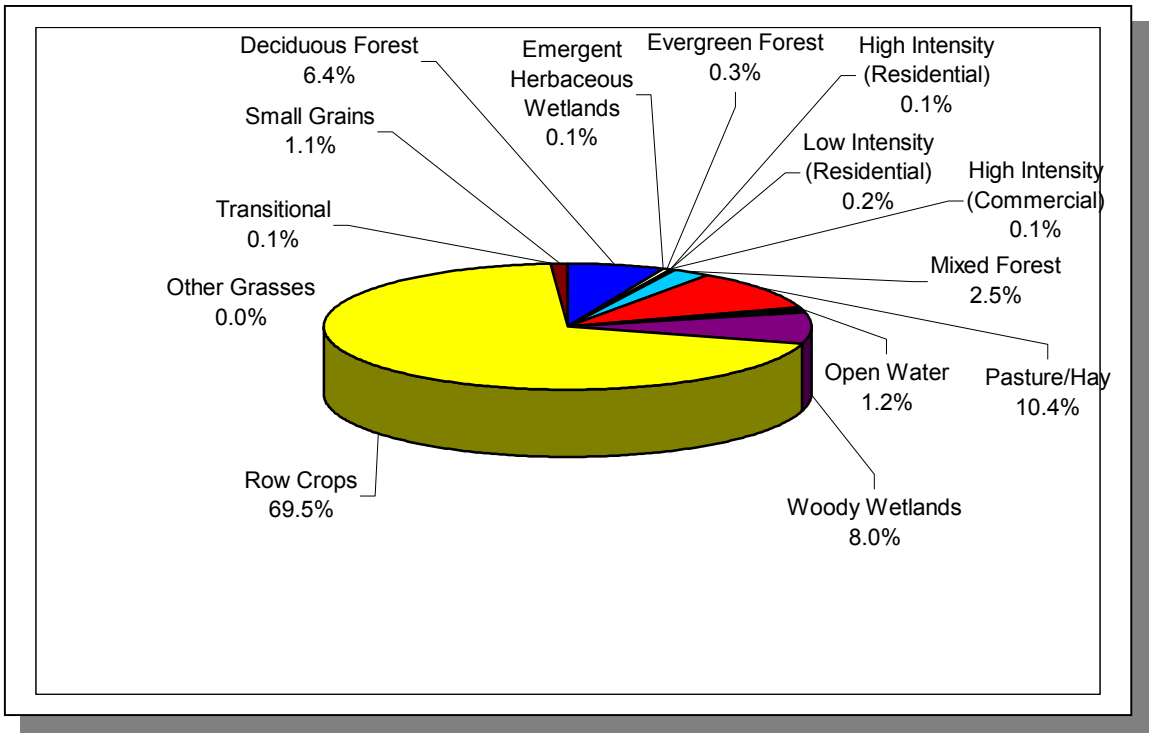

Figure 4-4. Land Use Distribution in Subwatershed 0801020601. *More information is provided in FD-Appendix IV.*

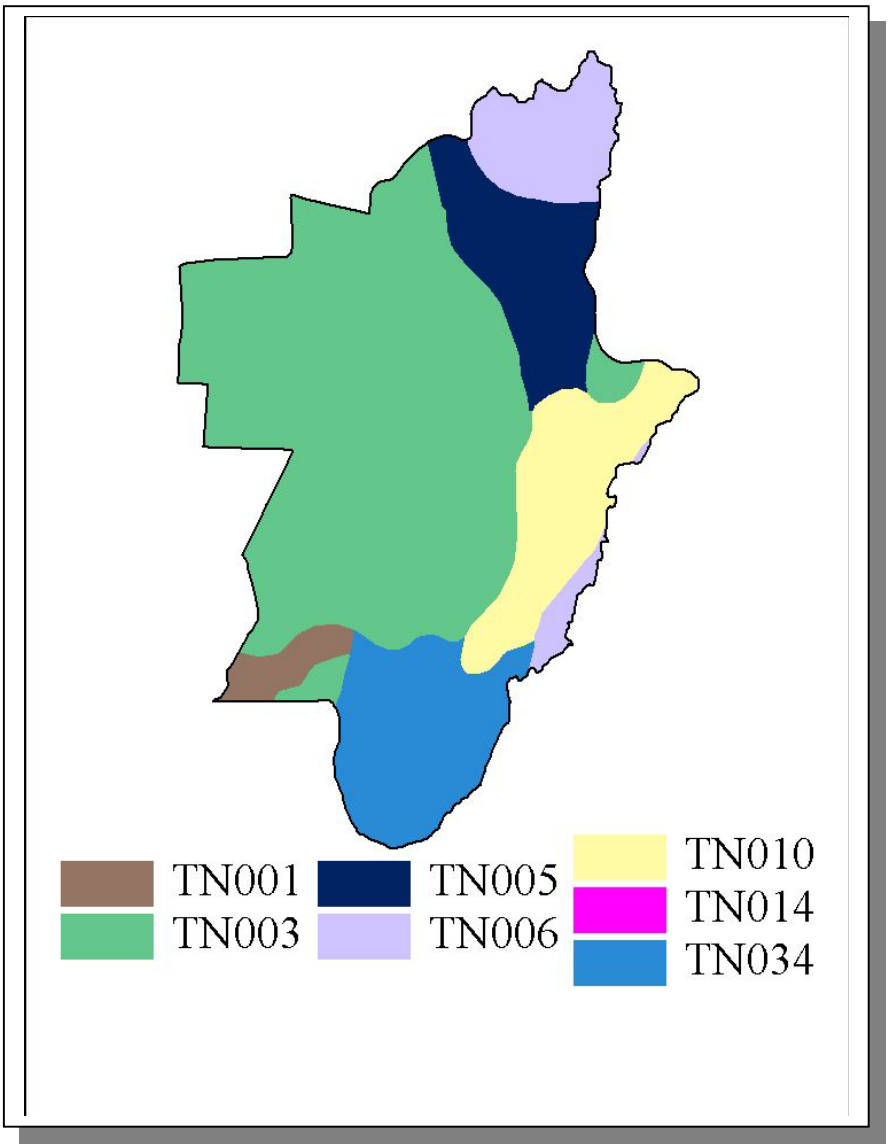

Figure 4-5. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020601.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN001	14.00	C	2.31	7.00	Silty Loam	0.33
TN003	62.00	C	0.50	6.65	Silty Clay	0.33
TN005	10.00	C	1.79	6.68	Silty Loam	0.41
TN006	0.00	C	1.30	5.42	Silty Loam	0.48
TN010	81.00	C	1.33	5.11	Silty Loam	0.44
TN014	30.00	C	1.30	5.12	Silty Loam	0.47
TN034	36.00	D	0.48	6.07	Silty, Clayey Loam	0.35

Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0801020601. *More details are provided in FD-Appendix IV.*

	COUNTY POPULATION			ESTIMATED POPULATION IN WATERSHED		PERCENT CHANGE
County	1990	1997 Est.	Portion of Watershed (%)	1990	1997	
Dyer	34,854	36,465	11.11	3,872	4,051	4.6
Lauderdale	23,491	24,128	2.4	564	580	2.8
Totals	58,345	60,593		4,436	4,631	4.4

Table 4-3. Population Estimates in Subwatershed 0801020601.

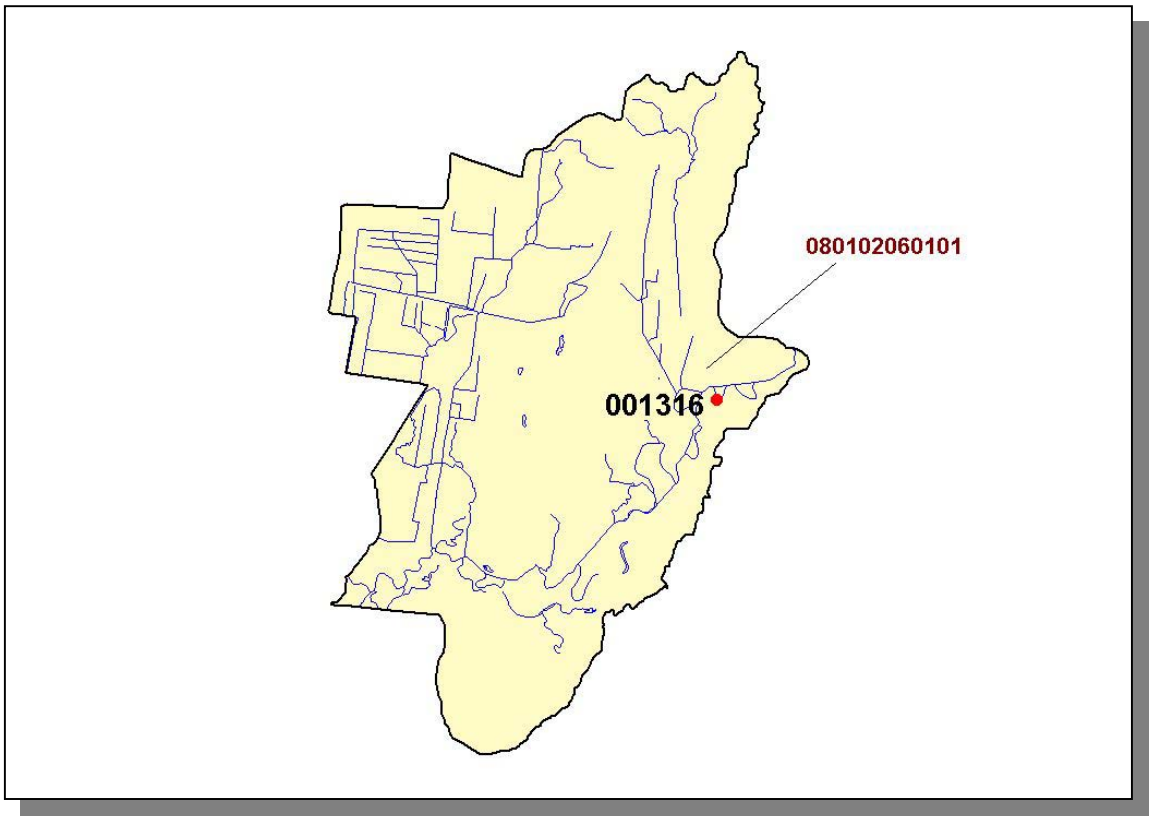

Figure 4-6. Location of STORET Monitoring Sites in Subwatershed 0801020601. *HUC-10 and HUC-12 subwatershed boundaries are identical. More information is provided in FD-Appendix IV.*

4.2.A.ii. Point Source Contributions.

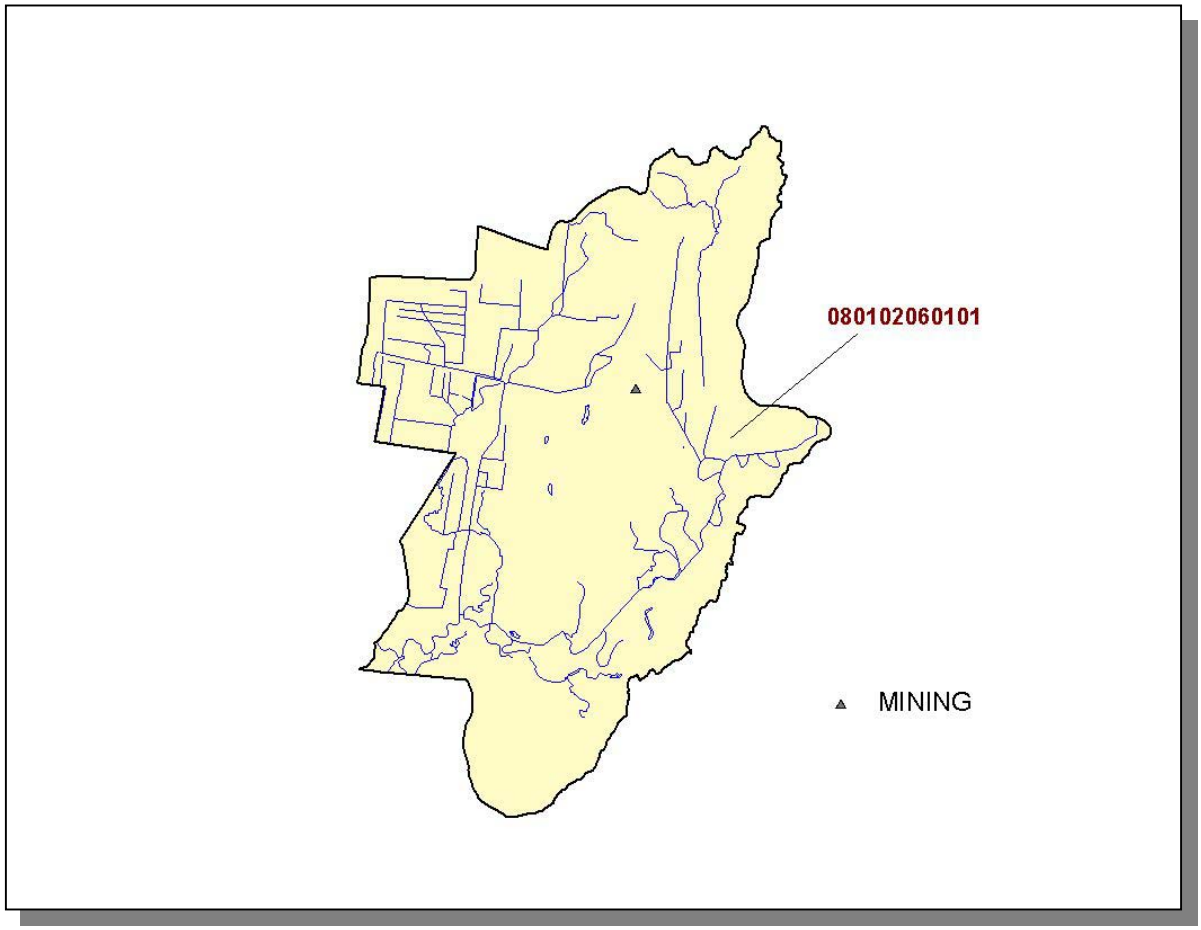

Figure 4-7. Location of Active Point Source Facilities in Subwatershed 0801020601. *HUC-10 and HUC-12 subwatershed boundaries are identical. More information is provided in the following charts.*

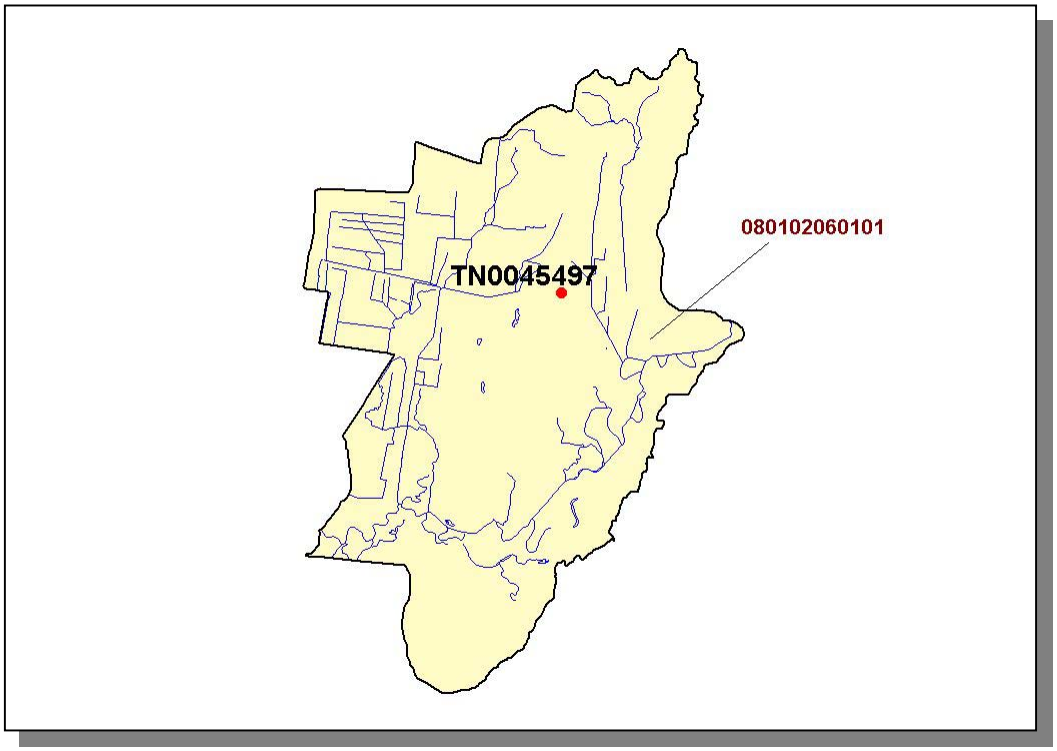

Figure 4-8. Location of Active Mining Sites in Subwatershed 0801020601. *HUC-10 and HUC-12 subwatershed boundaries are identical. More information, including the names of facilities, is provided in FD-Appendix IV.*

4.2.A.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens	Chickens Sold	Hogs	Sheep
0	1,604	0	2	0	227	0

Table 4-4. Summary of Livestock Count Estimates in Subwatershed 0801020601. *According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.*

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Dyer	40.4	40.4	0.8	2.8
Lauderdale	90.0	88.8	0.4	1.2
Totals	**130.4**	**129.2**	**1.2**	**4.0**

Table 4-5. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 0801020601.

CROPS	TONS/ACRE/YEAR
Corn (Row Crops)	8.68
Soybeans (Row Crops)	6.94
Cotton (Row Crops)	6.69
Sorghum (Row Crops)	5.90
Grass (Hayland)	0.18
Legume (Hayland)	0.65
Legume/Grass (Hayland)	0.58
Grass (Pastureland)	1.76
Grass, Forbs, Legumes (Mixed Pasture)	0.71
Forest Land (Grazed)	0.00
Forest Land (Not Grazed)	0.00
Conservation Reserve Program Land	0.62
Wheat (Close Grown Cropland)	4.79
Oats (Close Grown Cropland)	3.34
Other Vegetable and Truck Crops	4.00
Summer Fallow (Other Cropland)	8.70
Nonagricultural Land Use	0.00
Farmsteads and Ranch Headquarters	1.04
Other Land in Farms	0.05
Other Cropland (Not Planted)	1.36

Table 4-6. Annual Estimated Total Soil Loss in Subwatershed 0801020601.